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ACCIDENT PREVENTION PLAN FOR INSTALLATION OF TWO MONITORING WELLS AT  
BOCA CHICA VALVE PIT NAS KEY WEST FL  
11/11/2011  
SMALL BUSINESS GROUP, INC.



# **ACCIDENT PREVENTION PLAN**

**Installation of Two Monitoring Wells  
At  
Boca Chica Valve Pit  
Naval Air Station – Key West  
Key West, Florida**

**Naval Facilities Engineering Command SE**

**Contract Number: N69450-11-D-0036/004**

**November 11, 2011**

**Prepared by:**

Small Business Group, Inc.  
7301 Rivers Avenue, Ste 245  
North Charleston, SC 29406

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#### APPENDICES

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- B. Responsible Personnel Training Documentation
- C. Map to Lower Keys Medical Center
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- E. Activity Hazard Analysis
- F. Daily Production Report Form

## 1. Signature Sheet

This section provides a detailed listing of the individuals responsible for drafting, reviewing, implementing, and approving this Accident Prevention Plan. Signature indicates approval of the document.

### a) Plan Preparer

Preparation of Plan: \_\_\_\_\_  
Deborah Reaves, Operations  
(843) 879-0432

Date: \_\_\_\_\_

### b) Plan Approval

Approved by: \_\_\_\_\_  
Clifford Smith, President SBG, Inc.  
(843)879-0409

Date: \_\_\_\_\_

Mr. Smith is the President of SBG, Inc. and as such has the authority to obligate all company resources in connection with this project.

### c) Plan Concurrence

Plan Concurrence: \_\_\_\_\_

Date: \_\_\_\_\_

Mark Moltzen, Project Manager  
(843) 412-2086

Mr. Moltzen has full responsibility to ensure implementation and adherence to SBG-EEG's Accident Prevention Plan and the OSHA Standards. He will conduct site inspections to identify safety deficiencies on a daily basis.

### d) Plan Concurrence

Plan Concurrence: \_\_\_\_\_

Date: \_\_\_\_\_

Andrew Nixon, Project Engineer for Ardaman & Associates  
(561) 687-8200

Mr. Nixon has the responsibility to ensure implementation and adherence to SBG-EEG's Accident Prevention Plan and the OSHA Standards.

### e) NAVFAC SE Acceptance

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_

## **2. Background Information**

### **a. Contractor.**

The prime contractor for this project will be:

SBG-EEG  
7301 Rivers Avenue, Suite 245  
North Charleston, SC 29406

### **b. Contract Number.**

N69450-11-D-0036/004

### **c. Project Name and Location**

Installation of Two Monitoring Wells at Bravo Valve Pit

All Subsurface investigations will be performed within the Naval Air Station Key West site located on Boca Chica Key, Monroe County Florida. The NAS Key West site is located at mile marker 8 on US Highway One, approximately 4 miles east of the central business district of Key West, Florida. Bravo Valve Pit is located at or near Runway #7.

### **d. Project Description.**

The object of this project is the installation and subsequent sampling of (2) monitoring wells up to a depth of 20 feet. We will also collect soil samples prior to installation of said monitoring wells. The wells will be abandoned pending favorable laboratory results.

## **3. Statement of Safety and Health Policy**

SBG-EEG's Corporate Safety & Health Policy Statement is included in **Appendix A**.

For this project, SBG-EEG considers the prevention of on the job accidents to be one of our highest priorities. It is our policy to provide our employees with a safe and hazard free work environment and to promote safe work practices.

Our objective is to safely complete this project with-in budget and schedule restraints while accomplishing our goal of no accidents and a zero safety incident record.

All SBG-EEG personnel and subcontractors are required to be familiar with and follow: 1) company guidelines as defined in Reference 1; 2) EM 385-1-1 dtd 15 Sept 08 as listed in Reference 2; 3) OSHA standards as listed in References 4 and 5.

## 4. Responsibilities and Lines of Authority

### a. Responsibility of Safety and Occupational Health Program

It is the policy of Small Business Group, Inc dba SBG-EEG to prevent injuries to our employees and visitors, to prevent property damage, and to comply with all Local, State and Federal regulations. As such, SBG-EEG as the employer is ultimately responsible for implementation of this program on all of SBG-EEG's worksites.

### b. Responsible Personnel – Identification and Accountability

Corporate Health and Safety Officer – Terry Lewis (843) 412-6867

Site Superintendent (SSHO) – Tom McElwee (843) 412-2097

A copy of their resumes, First Aid qualifications and/or OSHA 30-hour certificates, are included in **Appendix B**. In addition, they are trained and qualified in the following areas:

#### OSHA Act/General Duty Clause –

Each Employer:

- a. shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to his employees;
- b. shall comply with occupational safety and health standards promulgated under this Act.

Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

#### (1) 29 CFR 1904, Recordkeeping -

This Subpart describes the work-related injuries and illnesses that an employer must enter into the OSHA records and explains the OSHA forms that employers must use to record work-related fatalities, injuries, and illnesses. (OSHA 300 Logs)

Each employer is required by this Part to keep records of fatalities, injuries, and illnesses must record each fatality, injury and illness that is work related, new or results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness.

#### (2) Subpart C: General Safety and Health Provisions, Competent Person –

Competent person to be onsite is Tom McElwee, Director of Operations for SBG-EEG. He will be capable of identifying existing and predictable hazards

in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

(3) Subpart D: Related Documentation and Reference Materials

Publications listed below were used in the development of this work procedure and are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1926 Safety and Health Regulations for Construction

29 CFR 1910 Occupational Safety and Health Standards

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 30 and 30A)

NFPA 30 Flammable and Combustible Liquids Codes, 2003

NFPA 30A Motor Fuel Dispensing Facilities and Repair Garages Codes, 2003

NFPA 54 National Fuel Gas Codes. 2009

EPA REGULATIONS ON OIL POLLUTION PREVENTION, TITLE 40 CFR 112

EM 385-1-1 US Army Corps of Engineers Safety and Health Requirements

FLORIDA ADMINISTRATIVE CODE

F.A.C. 62-770 Petroleum Contamination Site Cleanup Criteria

(4) Subpart E: Occupational Health and Environmental Controls, Citations, and Safety Programs -

Prior to the start of work the area must be checked for the presence of above or below ground power, gas or water lines, and they must be marked and secured by lockout/tagout if they will be endangered. Use extreme care when working around overhead/ underground power lines. Ensure notification has been made to NASKW, to secure all electrical, water, gas, etc. prior to work. Determine from the facility custodian if any other work (e.g. construction, electrical repairs, and hot work) is planned in the work area, which could impact the work of this procedure. Determine if the work area contains any remotely operated equipment or equipment that starts automatically. Determine if any surrounding area work such as pumping, cleaning or venting nearby gasoline tanks, is planned that could be affected by the work of this procedure. Operation of any equipment or any digging in the work area without the approval of the Project Manager is prohibited. No chemicals, compressed gasses, or gas lines will be taken inside the work area without the permission of the Project Manager, as these may present explosion and asphyxiation hazards.

Personnel will not carry smoking materials into the work area; they must be left in a designated area. If necessary, a safe smoking area should be designated by



the project manager with the agreement of the facility custodian and the cognizant fire department. Smoking is only permitted in designated areas.

*Medical Services and First Aid.* **Mr. McElwee is trained in First Aid, documentation attached as part of Appendix B.** Medical services must be reasonably accessible through a trained first aid person and/or the local emergency responder. First aid supplies must be in a waterproof container with individually sealed packages for each item, facilities to flush eyes or bodies exposed to corrosive materials, and a system to provide prompt emergency transportation. Arrangements for medical services and first aid are to be made prior to the start of a project.

*Sanitation.* An adequate supply of drinking water and cups must be provided. Toilets must be provided except to mobile crews having transportation available to nearby facilities.

*Occupational Noise Exposure.* Administrative or engineering controls must be used to reduce excessive noise exposure. A hearing conservation program is required if sound levels exceed the permissible exposures. Hearing protection must be provided when sound levels exceed the permissible level.

*Ionizing and Nonionizing Radiation.* Not applicable to this project

*Airborne Contaminants.* Administrative or engineering controls must be used if feasible to avoid employee exposure to airborne contaminants. Approved protective equipment must be used if administrative or engineering controls are not feasible.

*Illumination.* Illumination requirements range from 3 to 5 foot-candles for general construction areas and 10 to 30 foot -candles for on-site shops and first aid stations and offices. All work will be performed during daylight hours.

*Hazard Communication.* A written hazard communication program is required, in writing, that includes training, labeling, and the availability and use of Material Safety Data Sheets.

*Methylenedianiline (MDA).* Not applicable to this project

*DOT Marking, Placards and Labels.* Any package, freight container, or vehicle that has a DOT marking, placard or label is required to keep that marking in place until the hazardous materials are removed or no longer present a hazard.

*Process safety management of highly hazardous chemicals.* Not applicable to this project.

*Hazardous waste operations and emergency response.* Written safety and health programs for hazardous waste operations may be required. Training, medical surveillance, engineering controls, work practices and personal protective equipment are included in the standard. Not anticipated for this project.

*Criteria for design and construction of spray booths.* Not applicable to this project.

(5) Subpart E: PPE, types and requirements for use – IAW EM385-1-1.5

The following protective equipment shall be worn by all personnel working at the site in accordance with EM 385-1-1 and the company safety manual.

Level D:

- Hardhat
- Steel toed boots
- Safety glasses
- Hearing protection
- Gloves (Nitrile gloves worn under work gloves for petroleum exposure)
- High visibility vests

General Requirements

a. Personal Attire

Long trousers are required at all times, except where specifically approved by management for special job assignments (i.e. working in tyvek, etc).

Loose or flapping clothing, rags, objects extending from pockets or attached to belts shall not be worn while working in close proximity of moving machinery or rotating mechanical equipment.

Shirts with tails shall be tucked into trousers. Tank-top style shirts are not permitted.

Employees are required to wear long sleeve shirts (secured at wrist) under the following conditions:

1. When exposed to acids, caustics, or alkaline.
2. When working with wire wheels, buffers, grinders, or when drilling or chipping (concrete, metal, etc.)
3. When around blowing pressurized air or gases.

b. High-Visibility Apparel

High-visibility apparel meeting, at a minimum, ANSI/SEA 07-2004 Performance Class 2 requirements shall be worn by any workers exposed to mobile/heavy equipment operations, vehicles, load handling, hazardous activities and vehicular traffic with no protective barriers.

c. Equipment

Personal protective equipment (PPE) such as safety glasses, hardhats, earplugs, etc., shall be worn in accordance with EM385-1-1.5. Proper PPE cannot protect you from all harm. However, accompanied by a good safety conscious attitude, good housekeeping, and good supervision, the probability of an accident is greatly reduced. The proper equipment and good supervision will be provided – **YOU MUST PROVIDE THE SAFETY CONSCIOUS ATTITUDE.**

## 1. Eye and Face

Goggles and/or face shield shall be worn over Z-87 approved safety glasses and be properly fitted and adjusted when required by site conditions IAW EM 385-1-1.5.B:

- a) Proper shaded glasses and/or face shield shall be used when burning or welding.
- b) Approved hoods with eye protection shall be used during sandblasting operation.
- c) The outside of goggles and shields should be wiped off before removing them from the eyes.
- d) The employees whose vision requires use of corrective lenses:  
Personal non-Z-87 corrective spectacles must be protected by the use of Z-87 approved safety goggles or over-the –glass eye protection.
- e) Safety glasses, face shields, goggles and other eye and face protection shall be kept clean and in good repair.
- f) Operations that require handling of harmful materials and operations where protection from gasses, fumes, and liquids is necessary shall require the wearing of goggles with cups of soft pliable rubber and suitable face shields, masks, or hoods that cover the head and neck, and other protective clothing appropriate to the hazards involved.

## 2. Footwear

- a) Employees shall wear suitable industrial grade work shoes in good condition while working in the field IAW EM 385-1-1.5.B.05.
- b) Shoes with hard soles, a well defined heel and sturdy uppers (i.e. leather) shall be used for field and shop work.
- c) Employees are required to wear safety toed shoes at all times during this project.
- d) All protective footwear shall meet ASTM F2412 and F2413 standards.

## 3. Hand

- a) Employees shall wear work gloves on jobs where gloves will help prevent hand injuries.
- b) Work gloves shall be worn when handling materials or tools that may blister, burn, or cut.
- c) Gloves shall not be worn while working with rotating machinery where the glove may be caught and pulled into the machinery along with the employee's hand.

- d) Work gloves shall be of a proper fit to ensure the best protection. The use of ill-fitted hand protection shall be avoided.
- e) Rubber/nitrile gloves will be used if contact with petroleum products is anticipated.

#### 4. Head

All persons working in or visiting the jobsite area shall be required to wear a hard hat.

The use of hard hats is to provide reasonable protection against head injuries caused by falling objects, accidental electrical contacts or contact or entanglement with rotating machinery.

- a) Hard hats shall be worn in all work areas and in areas posted "Hard Hat Area". Only company approved and issued hard hats shall be worn unless specifically approved by the Corporate Health and Safety Officer IAW EM 385 1-1 05.D.02.
- b) Hard hats found to be defective must be immediately replaced.
- c) All hard hats shall meet or exceed requirements of ANSI Z89.1
- d) No modification to the shell or suspension is allowed except when such changes are approved by the manufacturer.

#### 5. Hearing

- a) Approved hearing protective devices (i.e. muffs, earplugs) shall be used in high noise exposure areas or when using machinery that produces high-pitched or loud noises in excess of 85db.
- b) Employees shall use approved hearing protection devices in all locations designated "Hearing Protection Required". When in doubt of noise exposure, hearing protection shall be used.
- c) Permissible Noise Exposures:

Cumulative Duration per Hour	Sound Level db Slow Response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110

6. Respiratory

Respiratory protection shall be used whenever administrative or engineering controls fail to reduce the contaminants to within the permissible limits.

In a work environment where a respirator is required to protect the health of an employee, the contractor shall provide:

- i. the respirator
- ii. the fit-test
- iii. medical evaluation
- iv. training

a. When an employee voluntarily chooses to use a respirator that employee shall provide his/her own approved respirator as well as documentation of fit-testing and medical clearance.

Respirators shall be selected on the basis of the hazard to which the worker will be exposed.

In places where there is insufficient oxygen, one of the following shall be used:

- a) Supplied air respirator or self contained breathing apparatus
- b) In areas where there are excessive amounts of dust, the employees shall use approved particulate respirators.
- c) Respirators equipped with approved metal fume cartridges shall be used when welding/burning zinc, bronze, galvanized metal or materials coated with lead, lead paint or foreign matter, etc.
- d) Respirators shall be maintained in good condition and cleaned daily after use.

(6) Subpart F: Understanding fire protection in the workplace –

Fire Extinguishers

One (1) each 10 pound ABC fire extinguishers shall be readily available on the work site. Locate no closer than 25 feet and not more than 75 feet from the excavation.

Unexpected sources of ignition are an ever-present danger. Every effort must be made to avoid the release of vapors near ground level during ventilation and cleaning operations since it is not sufficient just to eliminate conditions known to be possible sources of ignition.

(7) Subpart K: Electrical –

SBG, Inc.'s policy is that, whenever possible, equipment **Lockout** (not Tag-out) will be used as the first choice in making the work safe in accordance with CFR 1910.1457 The Control of Hazardous Energy (Lockout/Tagout). If an energy isolating device is not capable of being Locked-out, a Tag-out procedure can be used only if it is consistent with the requirements of 29 CFR 1910.1457 (The Control of Hazardous Energy) and provides full employee protection equivalent to that of a Lockout procedure.

Lockout and Tag-out of machinery, equipment, or systems shall only be performed by authorized employees.

Locks and Tags shall be per enclosure.

Methods for isolating or blocking energy and securing point of control are in enclosure.

Procedures for working on energized electrical circuits are in enclosure.

Safe work practices when working near utilities are in enclosure.

*Safety-related work practices:* Safety-related work practices are contained in 1926.416 and 1926.417. In addition to covering the hazards arising from the use of electricity at jobsites, these regulations also cover the hazards arising from the accidental contact, direct or indirect, by employees with all energized lines, above or below ground, passing through or near the jobsite.

*Safety-related maintenance and environmental considerations:* Safety-related maintenance and environmental considerations are contained in 1926.431 and 1926.432.

*Safety requirements for special equipment:* Safety requirements for special equipment are contained in 1926.441.

**c. The names of Competent and/or Qualified Person(s) and proof of competency /qualification to meet specific OSHA Competent/Qualified Person(s) requirements are attached in Appendix B**

The following Competent Person is assigned to this project and certifications are included in this plan.

**Tom McElwee – Site Supervisor, SBG**

**d. Requirements that no work shall be performed unless a designated competent person is present on the jobsite.**

SBG-EEG requires that a competent person be on the jobsite at all times while work is being performed. A competent person is defined as “a person who is capable of identifying existing and predictable hazards in the surroundings or working

conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.”

**e. Requirements for pre-task safety and health analysis.**

SBG believes that the health and safety of all its employees is of the utmost importance. For that reason, SBG does not require or instruct any person to work in surroundings that are deemed unsafe or dangerous to his/her health. All safety and health programs, documents, signs and tags are communicated to employees in a language that they understand. All persons admitted to work site area will be briefed and shall have access to the site specific Health and Safety plan which will be maintained on-site.

**f. Lines of Authority**

The Corporate Health and Safety Officer, Mrs. Lewis, reports directly to the president of the company. Mr. McElwee, VP of Operation/ Site Safety and Health Officer and Site Superintendent, reports to Mrs. Lewis on health and safety matters.

Mrs. Lewis will periodically inspect jobsites to identify and correct jobsite hazards.

Mr. McElwee has full responsibility to ensure implementation and adherence to SBG, Inc’s Accident Prevention Plan and the OSHA Standards. He will be onsite at all times to conduct site inspections to identify safety deficiencies.

**g. Policies and procedures regarding non-compliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified.**

The objective of the Health and Safety Program is to reduce the number of injuries and illness to an absolute minimum. Our goal is **zero** accidents and injuries. Accident prevention shall be considered of primary importance in all phases of operation and administration. Management shall provide safe and healthy working conditions and to establish and insist upon safe practices at all times by every employee.

Non-compliance with Company safety requirements by management, supervisors or employee will result in disciplinary actions ranging from a documented verbal reprimand to dismissal, dependent upon the severity of the offense. Flagrant and/or willful safety violations will be cause for an employee to be removed from the project.

No-compliance by a subcontractor will result in the subcontractor being removed from the job site.

**5. Subcontractors and Suppliers**

Periodic coordination meetings will be held on the job site with representatives of each subcontractor involved in specific phases of work being performed. Subcontractors will

report directly to the Site Superintendent. SBG-EEG is the only prime contractor on the site.

**a. Identification of subcontractors:**

Ardaman & Associates, Inc  
2200 North Florida Road, Suite 101  
West Palm Beach, Florida 33409

**b. Safety responsibilities of subcontractors and suppliers:**

All subcontractors will adhere to the same requirements as the Prime Contractor, including those outlined in this APP.

## **6. Training**

**a. Requirements of new hire Safety & Occupational Health orientation training at the time of initial hire of each new employee.**

Any new hires for this project, including tenured company personnel reassigned to this jobsite, shall be trained in the Safety and Occupational Health Program and it's applicability to this project. At a minimum, the topics discussed will include:

1. General health and safety requirements
2. Control of site hazards
3. Reporting unsafe conditions
4. Emergency response procedures
5. Reporting accidents
6. Safe operation of site equipment
7. Daily safety inspection of site equipment
8. Daily safety inspection of the project site and more frequent inspections as conditions dictate
9. Awareness of POV's and Government vehicles in and around the project site and adjacent parking lot
10. Heat related illnesses
11. Fire extinguisher use
12. Fall protection, as required
13. Respiratory Protection, as required

**b. Requirements for mandatory training and certifications:**

1. Erosion and Sedimentation Control Installation, where applicable.
2. Site Equipment operation, All employees operating site equipment have been trained in the proper operation of the equipment they will be operating.
3. PPE, Each employee on this project has been trained in the proper use of PPE outlined in Section 4.



4. First Aid - The Site Superintendent on this project has been trained in First Aid by the American Red Cross. The Site Superintendent will ensure that all personnel performing site work will have the appropriate qualification.

**c. Procedures for periodic safety and health training for supervisors and employees.**

**Daily safety meetings are required for all field work and will be held each morning.** These meetings will be conducted by the site superintendent and will be attended by all employees. Items to be discussed include but are not limited to:

1. Job assignments
2. Site specific safety requirements
3. Personal protective equipment
4. Work scope changes
5. Quality assurance

**d. Emergency Response Training**

All on site employees will be indoctrinated and trained to respond to emergencies in accordance with the below information.

If an individual suffers personal injury and the situation dictates, will call:

**Fire Department or Ambulance: (305) 293-3333**

(If an ambulance is needed, it will be requested immediately)

For non-emergency – Medical care will be by **Lower Keys Medical Center**. Directions are shown on the site map – see **Appendix C**. Phone number is: Switchboard, **(305) 294-5531**

A list of emergency telephone numbers will be conspicuously posted in a location accessible to all project employees.

As soon as practical, the Corporate Health and Safety Officer shall be fully apprised of the situation. All accidents, injuries, and near misses will be investigated. The investigations will be used to prevent future occurrences.

An emergency meeting with the project site superintendent, supervisor(s) and the Corporate Health and Safety Officer will be conducted to detail the findings of the inspection. Corrective actions will be implemented prior to re-starting work activities at the site.

## **7. Safety and Health Inspections**

**a. Specific assignment of responsibilities for a minimum daily job site safety and health inspection during periods of work activity:**

Daily site safety inspections will be conducted by the Site Superintendent (qualifications in Appendix B) and reported on the daily Contractor Production Report form (See Appendix F). Inspections may be conducted more frequently if

conditions warrant. Any safety deficiencies will be tracked to determine that corrective action has occurred and to insure that a pattern does not exist. The individuals listed in Paragraph 4. (McElwee and/or Lewis) shall perform these tasks. Names and proof for "Competent Persons" for tasks that may be performed by vendors or subcontractors are attached in Appendix B in accordance with OSHA requirements.

**b. external Inspections**

No required external inspections are anticipated for this project. Any condition where external inspections/certifications become required by an outside entity, the Site Superintendent/Health and Safety Officer will document the inspection requirement in the daily report and notify the NAVFAC SE.

## **8. Accident Reporting**

**a. Exposure Data (man-hours worked)**

The Site Superintendent / Quality Control Manager are responsible for logging the names and hours worked for the employees on the job site. Additionally, the subcontractors report the same data to the Site Superintendent for inclusion with SBG-EEG's daily report.

**b. Accident Investigations, reports and logs - Appendix D**

- All accident investigation reports, logs and other relative information (including EGN FORM 3394) shall be provided to the Contracting Officer within 5 working days by the Corporate Health and Safety Officer.
- If an accident occurs, which involves lost time, OSHA recordable, or property damage of \$2000 or more, the Contracting Officer/Representative shall receive verbal notification immediately from the Site Superintendent or Project Manager and written notification within 24 hours of the occurrence from the CHSO.
- Should an accident occur which involves a fatality, a permanent total disability, a permanent partial disability, 3 or more individuals hospitalized, \$200,000 or more in property damage, or adverse publicity for the COE, immediate notification must be made in addition to the ENG 3394 reporting requirements and initiation of a board of investigation.

Reporting form examples are provided in Appendix D.

Actual forms will be maintained on site in the Project Office.

**The following general procedures shall be adhered to in the event of an accident:**

1. **Treat the injured employee.**
2. Complete the **Accident Reporting Forms/ENG Form 3394.**

3. Have the employee complete the **Employee/Witness Statement** form.
4. Have any witnesses complete the **Employee/Witness Statement** form. A thorough investigation must be done for every accident/incident/near miss. Remember, who, what, when, why and how. Inspect the area, talk to all witnesses and write a detailed investigation report that can be used as lessons learned. In the case where an employee refuses medical treatment, complete the **Declination of Medical Treatment** and have the employee sign and date the form.
5. Deliver all completed forms to the CHSO ***within 18 hours***.
6. The CHSO shall ensure that all documented reports, logs, and other relative information is provided to the proper Government representative in accordance with paragraphs **9.a, 9.b and 9.c**.

Records of all exposure and accident experience incidental to the work (including that of all subcontractors) are maintained for the duration of the project.

## **9. Plans (Programs, Procedures) Required by the Safety Manual**

### **a. Layout Plans**

Layout plans for temporary office and storage facilities, fencing, etc. and their anchorage (where applicable) will be submitted for approval prior to being constructed or brought on site per IAW section 04.A.01 of USACE EM-385-1-1.

Not applicable to this project.

### **b. Emergency Response Plans**

See section 6.d of this document.

The following procedures will be followed in the event of a fuel leak or if a fuel line is breached.

1. The area will be cleared of all occupants. Do not re-enter the area until the space has been determined to be safe by on-site SSHO.
2. All spills of hazardous substances shall be reported to our NAVFAC SE representative, Beverly Washington (904)542-6881 and Mr. Robert Courtright 305-293-2881.
3. We will use every practical means to secure leak and eliminate sources of ignition. Take precautions to prevent operation of electrical switches or devices, the use of power tools or smoking. If required, the use of safety flashlights designed for use in hazardous atmospheres is recommended and must be listed by a nationally recognized testing lab for its intended use.
4. Cleanup of spill will commence immediately. Liquids will be recovered or absorbed and any stained soil will be removed, contained and disposed.

## Procedures and tests

All employees will be instructed that in the event of a fire or other emergency that they are to evacuate to the front of the project site. At this location, an accounting of all personnel will occur as well as an evaluation of any critical or emergency situations. Evacuated personnel will direct any arriving emergency vehicles and or personnel to the proper location. Fire or other emergencies will be reported by calling (305) 293-3333.

### 1. Spill Plans

#### Spill Response Plan

- (a) If eminent danger to life or property, or if fire threatens or starts, evacuate upwind to a safe distance and call emergency personnel at (305) 293-3333.
- (b) Rescue any injured persons if determined safe to do so by SSHO.
- (c) Report spill immediately.
- (d) Pass the word to people in adjacent areas.
- (e) Stop source of spill or leak if possible.
- (f) Restrict all ignition sources if flammable vapors are present.
- (g) If properly trained and authorized, initiate available onsite measures to minimize the spread of contaminants. Otherwise, standby until emergency response personnel arrive on scene. Provide details of spill to emergency responders.

### 2. Firefighting Plan

Fire extinguishers will be available and at the project site. Extinguishers will be posted adjacent to any HOT WORK operations. All employees will be trained in the proper use of fire extinguishers. All employees will be indoctrinated in the procedures to use in the event of a fire as well as reporting of a fire.

### 3. Posting of Emergency Telephone Numbers

Emergency telephone numbers and reporting instructions for ambulance, physician, hospital, fire and police shall be conspicuously posted at the project work site. All employees will be instructed as to their location.

### 4. Man Overboard/Abandon Ship

Not applicable as this project is land-based and no ships will be used.

### 5. Medical Support

All medical emergencies will be reported to:

**Fire Department or Ambulance: (305) 293-3333**

(If an ambulance is needed, it will be requested immediately)

For non-emergency – Medical care will be provided by Lower Keys Medical Center, 5900 College Road, Key West, FL. Directions are shown on the site map. Phone numbers are: switchboard, **(305) 294-5531**.

**A map to the facility is provided as Appendix C.**

Note: The Project personnel listed below are qualified in first aid.

Personnel with First Aid training who may be on-site during this project include:

**Tom McElwee – Site Superintendent/ SSHO**

Documentation of training and certification is included as **Appendix B**.

**c. Plan for Prevention of Alcohol and Drug Abuse**

While on duty, employees shall not use or be under the influence of alcohol, narcotics, intoxicants, or similar mind-altering substances. Employees found to be under the influence of or consuming such substances will be immediately removed from the job site. All subcontractors on this project will enforce drug-free workplace requirements.

**d. Site Sanitation Plan**

Site Sanitation facilities shall comply with section 2 of USACE EM 385-1-1.

Housekeeping - Employees and contractors will perform daily housekeeping duties around the job site to include: pick up and store tools, materials, equipment, etc, and proper storage of debris and waste.

Drinking Water – An adequate supply of potable water will be available on the job site for drinking and personal cleansing.

Non-potable Water – Non-potable water sources will not be cross-connected with potable water supplies.

Toilets – A mobile crew will be used for this project and will drive to nearest facility as required.

**e. Access and Haul Road Plan**

Access to the site will be from normal base entrance. No haul roads are required for this project.

**f. Respiratory Protection Plan**

Presently, there is no work anticipated on this project that will require respiratory protection. If work situations change and respiratory protection is required, a written plan will be submitted.

**g. Health Hazard Control Plan**

Presently, the hazardous environment anticipated is possible contact with petroleum based products while drilling wells. All efforts will be made to

eliminate this hazard through engineering controls. As a safeguard, all employees involved in the handling of contaminated soils/oils will be properly dressed out in the appropriate PPE. All non-essential personnel on site will be instructed to remain at a safe distance from the drilling site while work is being done.

#### **h. Hazard Communication Program**

MSDS sheets will be kept at the work site. All required training records will be kept on site for the duration of the project. Contractor employee training records are maintained in the Contractor's home office. An inventory of hazardous materials (if any) will be kept in the project site office.

#### **i. Process Safety Management Plan**

Not Applicable as there are no highly hazardous chemicals being used on this project.

#### **j. Heat/Cold Stress Monitoring Plan**

1. Summer months can be hot with high relative humidity; the winter months can have cold spells also with high relative humidity and dampness. Therefore, heat and cold stress are a concern. Adverse weather conditions are important considerations in planning and conducting site closure operations. Extremes in hot and cold weather can cause illness, injury, physical discomfort, fatigue, reduced mental clarity, and loss of efficiency.
2. Exposure to Extreme Heat - Heat stress or heat-related illness occurs when the combined metabolic and environment heat to which an individual is exposed exceeds the body's ability to cool.
3. Prevention of Heat Stress. The education of supervisory personnel and workers is a key factor in heat stress prevention. Workers must also be alerted to the presence of heat stress-producing conditions associated with tasks/work areas on-sites. Those workers already showing symptoms of heat stress must have reductions in heat loads, and be prevented from encountering additional heat loads. Prevention of heat stress is also important because a person who has suffered from heat exhaustion or a heat stroke is already primed for heat-related sickness.

The site supervisor shall be aware of the potential for heat stress and other weather-related illnesses, and shall implement appropriate work regimens to minimize the likelihood of personnel becoming ill.

According to NIOSH, OSHA, USCG and USEPA, 1985, the following are typical effects of heat stress:

## **HEAT RASH**

- *HEAT CRAMPS*
- *HEAT EXHAUSTION*
- *HEATSTROKE*

Heat Rash is characterized by profuse raised red vesicles (blister- like) on affected area or pricking sensations during heat exposure. The predisposing factors of heat rash are unrelieved exposure to humid heat, with skin continuously wet from un-evaporated sweat.

Heat cramps are characterized by muscle spasms and pain in the feet, abdomen, and hands. These symptoms are caused by inadequate electrolyte (salt) replacement when sweating is heavy, even when drinking large quantities of water. The low salt content in the blood causes the cramping which may appear during work or up to several hours later. People on low sodium diets should consult their physicians and should not be given salt.

Heat Exhaustion is a state of collapse brought about by an insufficient blood supply to the cerebral cortex of the brain. This is caused by stress on body organs and includes poor blood circulation from insufficient cardiovascular function and widespread expansion of the blood vessels or dehydration.

Heatstroke is heat stress in its most extreme and serious form. Heatstroke indicates that the body's temperature regulation mechanism has failed and that the victim's temperature is rising to critically high levels. To prevent serious injury or death, act immediately to cool the victim's body, if not more serious symptoms can follow, such as delirium, unconsciousness, convulsions, possibly ending in death. Seek competent medical help!

### **k. Fire Prevention Plan**

Personnel performing work will be briefed on potential causes of fires and explosions. This briefing shall include but not be limited to the following:

1. Smoking is prohibited within the project site when handling flammable components.
2. A Class A, B, C fire extinguisher will be present while work is being performed on site.
3. Observe all safety precautions including, but not limited to fire watch, communications and fuel transport.
4. Hot work or spark generating work will not be allowed during fueling operations.
5. Synthetic and synthetic blend outerwear is prohibited due to static ignition hazard.
6. Air in all work zones located in hazardous areas shall be monitored by the contractor for combustible vapors.

In the unlikely event of a fire the following actions will be taken:

- If available and non-threatening to personnel, one attempt to extinguish the fire will be made.
- Contact fire emergency personnel for all fire incidents by dialing (305) 293-3333.
- The fire watch or person discovering the fire will immediately inform the Site Supervisor.
- Workers immediately stop work, turn off equipment, and proceed to the designated safe zone.
- All personnel will be counted and verified as present based upon the daily site-log.
- An accident investigation will be conducted by the Health and Safety Officer to determine the cause of fire and witness report statements will be taken.
- An emergency meeting with project site superintendent, supervisor(s), CHSO, and on site personnel will be conducted to detail the findings of the inspection.
- Corrective actions will be implemented prior to re-starting work activities at the site.

#### **l. Wild Land Fire Management Plan**

Personnel performing work at this job-site will be briefed and trained on the potential hazards and proposed measures to reduce wild fires. Additionally, all employees shall have access to listings of weather information sources, up-to-date maps and current company evacuation procedures.

#### **m. Hazardous Energy Control Plan**

Exposed power lines and underground cables may present a potential for electrocution. Personnel should be aware of utilities and keep a minimum of 10 feet away from overhead power lines. Utility lines must be considered energized until positively determined otherwise.

All energized lines shall be locked and tagged out per the SBG-EEG's Lockout/Tag-out Instruction appendix prior to work commencing where exposure or electrocution could result. All power tools will be supplied with electricity through ground fault circuit interrupters. SBG electrical work will be done only by qualified personnel.



**n. Site Specific Fall Protection & Prevention Plan**

Not applicable.

**o. Site Specific Work Plan**

The purpose of this work plan is to install (2) monitoring wells and associated sampling at the Bravo Valve Pit, Boca Chica Key Naval Air Station, Key West.

**1. Site Location**

Field work will be performed within the Naval Air Station (NAS) Key West site located on Boca Chica Key in Monroe County, Florida. The NAS Key West site is located at mile marker 8 on US Highway One (Overseas Highway), approximately 4 miles east of the central business district of Key West, Florida. More specifically, our work will be performed at or near the Bravo Valve Pit area at or near runway #7 Valve Pit area on NAS Key West.

**2. Permits and Notifications**

SBG will coordinate and schedule for the identification of possible underground utilities located at the site with Installation NAVFAC SE POC and Sunshine State One Call at 1-800-432-4770. Identification and marking of utilities will include, but may not be limited to, underground electrical lines, water lines, storm water lines, natural gas lines, telecommunications, CATV and sewers. In addition, any required excavation permits will be obtained from the NASKW Utilities & Energy Division ((305) 293-2912) prior to start of work.

Construction permits must be obtained from the South Florida Water Management District (SFWMD) 72 hours prior to start of any work.

The Federal Aviation Administration's (FAA) regulations pertaining to Objects Affecting Navigable Airspace (14 CFR 77) requires that the top of the boom of the drill rig to be flagged.

**3. Sampling Plan**

**a. Sampling Locations**

Work is to be performed at or very near the Bravo Valve Pit area, near Runway #7 Valve Pit area at the NAS Key West. The specific area of our work shall be marked in the field prior to start of work.

**b. Potential Contaminated Media**

The site soils and groundwater may be contaminated with petroleum hydrocarbons. The environmental activities described below will produce various investigation-derived waste (IDW) including, but not limited to: decontamination fluids; soil cuttings; well development water; and well purge water. Therefore

IDW will be drummed onsite until it can be characterized and properly disposed of off-site. After we have finished our field work, but prior to demobilization, we will collect representative samples of the drummed IDW and characterize them by way of laboratory testing. After the IDW has been profiled, we will retain a licensed waste disposal contractor to appropriately dispose of the drums and their contents.

c. Soil Assessment

Sampling will be performed in accordance with Florida Department of Environmental Protection, Division of Waste Management protocol as outlined in Storage Tank System Closure Assessment Requirements. Samples shall be analyzed for petroleum constituents in accordance with Chapter 62-770.200(19) FAC.

Advance two soil borings using a truck mounted drill rig at the locations designated by NAVFAC SE. During advancement, soil samples will be collected from the surface (0 to 0.5 ft), the 0.5 to 2 ft interval, and at 2 ft intervals thereafter until groundwater has been encountered. Soil samples collected will be evaluated in the field for stains, odors and with a calibrated Model 580B OVM Photoionization Detector (PID), which screens the sample for organic vapors. Each soil sample will be placed in a 16-oz jar until half-filled and covered with aluminum foil. Readings will be obtained with PID from the headspace of the sample jars five minutes after placement in the jars.

One discrete soil sample from each boring will be submitted for laboratory analysis from the interval yielding the highest concentration of volatile organic compounds, as detected with the PID, or as indicated by staining or odors. If no positive results are obtained and no staining is observed, a soil sample will be collected from the interval just above the water table. These two soil samples will be analyzed for the FAC 62-770 Table C used oil group using EPA methods 8082, 8260, 8270, FLPRO, and 4 RCRA metals. SPLP and TCLP analysis will not be conducted, unless instructed otherwise.

A FDEP approved laboratory will analyze samples in accordance with FDEP's regulations.

d. Groundwater Assessment

At the same locations the soil borings were advanced, install a 2-inch diameter groundwater monitoring well using a truck mounted drill rig. The monitoring wells will be installed to a depth of up to 20 feet and will be constructed with 10 feet of 2-inch diameter, 0.010-inch slot PVC well screen coupled to up to 10 feet of solid PVC riser. The top of the well screens will be set approximately 2 feet above the current water table. The annular space between the screen and the borehole in each well will be packed with 20-30 grade silica sand to at least one foot above the screened interval. A six-inch thick bentonite seal will be placed on top of the sand pack. The remaining portion of each well's annulus will be grouted to the surface with neat cement in order to prevent migration of surface contaminants along the borehole. The monitoring wells will be completed at the surface with 8-

inch diameter, cast iron manholes set in concrete pads. Each well will be fitted with a locking cap and secured with keyed-alike locks. Each monitoring well will be developed by surging and over-pumping until the discharge water appears sediment-free. Please refer to Figure 1 for a detail of typical shallow monitoring well.

A minimum of 24 hours after installation, a groundwater sample will be collected from each monitoring well and analyzed for the FAC 62-770 Table C used oil group using EPA methods 8082, 8260, 8270, FLPRO, and 4 RCRA metals.

If the laboratory results are favorable and with permission from NAVFAC SE, we will re-mobilize to the site and abandon both monitoring wells using the tremie method in accordance with the requirements of Chapter 62-532.500, FAC. Prior to mobilization, well abandonment permit will be obtained from the SFWMD.

e. Report

SBG will provide a final report outlining the field work performed, and the field screening and laboratory analytical results will be documented in a Technical Memorandum in accordance with Chapter 62-770.490 FAC. Completion Reports will be forwarded to the SCWMD.

f. Project Schedule

Weather conditions permitting, we tentatively propose to conduct our field work during the week ending December 2, 2011.

## **10. Risk Management Processes**

Activity Hazard Analysis for this project has been generated by the Site Superintendent and is provided in Appendix E of this Health and Safety Plan.

## **11. Additional Items Required by Section 14 - Submittals**

- a. All items have been incorporated within.